

**The Relationship between Leader's Behaviours and Employee Resilience: The  
Moderating Roles of Personality Traits**

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*Magnificat anima mea Dominum.*

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### **Abstract**

Resilience is among the increasingly popular topics of interest in the literature. Although rooted in the developmental and clinical literature, there has been an expansion of conceptualisations for this construct from various research streams, including the occupational literature.

However, due to the lack of a behaviour-oriented measure of employee-centric resilience, the conceptualisation adapted in the present study refers to employee resilience as developable capacities that can be facilitated by the organisation to positively cope, adapt and thrive in response to continuously changing work environments. Using a recently developed measure of resilience, this study investigated the effects of the two leadership behaviours of empowerment and contingent reward, as well as the moderating roles of dispositional proactivity and optimism as individual differences. Regression analysis on a sample of 369 professionals supported the hypotheses that employee resilience is contingent on the leader's operational empowerment and on contingent reward behaviours. Results also confirmed the effect of proactivity and optimism in enhancing resilience, and the moderating role of proactive personality in enhancing relation between empowering leadership and follower's resilience. Outcomes of the study were also discussed in terms of their theoretical and practical implications, and recommendations were made for future research into the topic.

## **Introduction**

Organisations operate in an increasingly competitive and dynamic context, and their success is a reflection not only of their capacity to survive, but also of their ability to thrive in adverse environments (Lampel, Bhalla, & Jha, 2014; Lengnick-Hall & Beck, 2011). The ability to thrive in the face of challenges requires that organisations develop proactive capabilities (i.e., organisational resilience), which can allow them to rebound with an enhanced capacity rather than just manage crises as they arise (Marks, 2006; McManus, Seville, Vargo, & Brunson, 2008) due to its established linkages with organisational survival, operations and performance following major crises, the concept of organisational resilience in contemporary literature has increasingly been capturing researchers' and practitioners' interest (Borekci, Rofcanin, & Sahin, 2014; Burnard & Bhamra, 2011; Fleming, 2012; Lampel et al., 2014; Riolli, Savicki, & Cepani, 2002; Sahebjamnia, Torabi, & Mansouri, 2015; Wicker, Filo, & Cuskelly, 2013).

The key fundamentals of an organisation lie in its infrastructure, operation systems, customers and suppliers, and human capital (Seville et al., 2006). In the crisis management literature, consequences of natural and man-made disasters include damages to business infrastructure, disruption to operations, and loss of customers and market shares (Lampel et al., 2014; Seville et al., 2006). Risk management strategies, while essential, can put organisations in a reactive position by focusing only on identifying future risks and reducing the size of risks, rather than looking at the bigger picture that involves business continuity and growth following the trials (Fleming, 2012). Moreover, risk management does not necessarily lead to a learning orientation and growth, which move the organisation from the point of mere survival to thriving. Hence, there is a need to continuously develop and maintain a capacity, namely resilience, which sustains and moves it forward. Defined as “a function of the organisation's overall situation awareness, management of keystone vulnerabilities, and adaptive capacity in a complex, dynamic and interconnected environment” (p.82),



organisational resilience enables organisations to prepare for and capitalise on challenges, as well as to consequently grow and remain sustainable (McManus et al., 2008). As the definition points out, resilience is of critical importance to an organisation as it reflects the organisation's alertness of its operational and competitive environments. It also requires the organisation to be aware of its key strengths and weaknesses so as to proactively plan for risk management activities (Seville et al., 2006). Outcomes of organisational resilience include improved post-crisis adaptability, a supportive and facilitative climate for coping, enhanced productivity, sustainable resource management and the long-run success for the business (Lampel et al., 2014; Lengnick-Hall & Beck, 2011; Riolli & Savicki, 2003; Seville et al., 2006).

The development of organisational resilience is predicated on the management of its interdependent components such as its operation systems, structure, culture, and stakeholders (Seville et al., 2006). In other words, the organisation's capacity to build resilience is partly contingent upon its ability to integrate and capitalise on core practices and procedures directly related to employee contributions (Lengnick-Hall & Beck, 2011). This suggests that employees, as critical organisational assets, are essential to developing organisational resilience (Lengnick-Hall & Beck, 2011; Shin, Taylor, & Seo, 2012). Therefore, enhancing our understanding of organisational resilience requires further investigation of resilience at the employee level, including its drivers, and how employee resilience may relate to important organisational outcomes, namely performance. Arguably, among the vast and ambiguous definitions of resilience, none has thus far focused on resilient employee behaviours. Most resilience definitions evolve around the concept of response mechanism, such bouncing back and positive adaptation following crises (Bonanno, 2004; Shin et al., 2012; Youssef & Luthans, 2007) or process of self-regulation involving cognitive, emotional and situational factors (King & Rothstein, 2010; McLarnon & Rothstein, 2013). Yet, there has not been any attempt to articulate what behaviours constitute the resilience of employees, who

are among the key vulnerabilities that the organisation needs to manage and develop (Lengnick-Hall & Beck, 2011). Thus, there is a need for a tangible working construct of resilience in an occupational context on which measures can be developed (Luthans & Church, 2002; McManus et al., 2008).

The present study aims to empirically examine effects of organisational antecedents of resilience, specifically empowering and contingent reward leadership behaviours, on employee resilience, using its behaviour-based conceptualisation (Näswall, Kuntz, Hodliffe, & Malinen, 2013). Secondly, it attempts to explore the moderating effects of individual differences such as the personality traits of proactivity and optimism make on the relation between leadership and employee resilience.

### **Employee Resilience**

Individual resilience research is predominantly found in the clinical and developmental literature, and refers to the ability to positively adapt and cope following traumatic experiences (Moenkemeyer, Hoegl, & Weiss, 2012; Richardson, 2002), specifically in children and adolescents (Rutter, 1985a; Wagnild & Young, 1993; Werner & Smith, 1992). Later, research into resilience extended to other fields such as sports psychology (Fletcher & Sarkar, 2012; Galli & Gonzalez, 2014) and personality (Block & Kremen, 1996; Ong, Bergeman, Bisconti, & Wallace, 2006; Riolli et al., 2002). Traditionally, resilience has been associated with dispositions such as optimism (Peterson, 2000) and self-efficacy (Wagnild & Young, 1993). Moreover, resilience has often been linked to incidents of trauma or disasters, which trigger the need to both recover and adapt (Pipe et al., 2012). Individual resilience in an organisational context is under-researched, as previous studies on resilience have mostly been conducted from clinical perspectives, such as children's coping success (Harland, Harrison, Jones, & Reiter-Palmon, 2004; King & Rothstein, 2010; Sutcliffe & Vogus, 2003; Wagnild & Young, 1993).

In recent years, the study of individual resilience has extended to adult populations in occupational settings (Avey, Luthans, & Jensen, 2009; King & Rothstein, 2010; Lee, Sudom, & McCreary, 2011; Lengnick-Hall & Beck, 2011; Luthans, 2002), and focused not only on the capacity to survive and recover post-adversity, but also on the ability to learn from the trials in order to adapt to changes and flourish (Lengnick-Hall & Beck, 2011). However, with regards to the workplace context, the study of employee resilience is still “in its infancy” (p. 330) (King & Rothstein, 2010), as the concept of individual resilience has been defined and used differently across disciplines, without any universally accepted conceptualisation and strong empirical foundation (Burnard & Bhamra, 2011; King & Rothstein, 2010; Southwick & Charney, 2012). Recently, Luthans and colleagues have focused on the investigation of positive human capital at work – in which resilience is a constituent – and how it is linked to improved performance (Luthans & Church, 2002). Specifically, researchers consider resilience as one of the four positive components of psychological capital (PsyCap) (Avey et al., 2009), together with hope, optimism and self-efficacy, and propose that these comprise psychological states open to further development (Coutu, 2002). These studies followed the stream of positive psychology in the organisational context, also known as positive organisational behaviours (POB) (Avey et al., 2009; Luthans, 2002). A common theme in the vast occupational literature into resilience was that resilience has been recognised as one of the most critical personal resources, associated with positive workplace behaviours and attitudes such as commitment towards change, increased job satisfaction, engagement, reduced stress, and enhanced decision-making outcomes (Shin et al., 2012; Wanberg & Banas, 2000; Xing & Sun, 2013). In addition, resilience has also been put forward as a process involving the interaction between the individual and various contextual factors (Luthar, Cicchetti, & Becker, 2000; Moenkemeyer et al., 2012). For instance, Rothstein and colleagues have put forward a model which sees resilience as a dynamic process consisted of self-regulatory, situational and protective factors (e.g. affective, cognitive and behavioural

self-regulation) (King & Rothstein, 2010; McLarnon & Rothstein, 2013). However, this model appeared overly complicated, and although it was referred to as the Workplace Resilience Inventory (McLarnon & Rothstein, 2013), the processes and factors involved were not directly linked to the occupational context and how organisational factors were engaged.

Researchers examining resilience in work settings characterise it as a relatively stable disposition associated with other traits such as self-efficacy, locus of control, and the Big Five personality traits of agreeableness and extroversion (Lee et al., 2011; Wagnild & Young, 1993), a trait reflected on the “ability to adapt... and recover quickly from stressors and potential stressors” (p.11) (Pipe et al., 2012). However, other scholars argue that resilience can be developed, and should not be viewed simply as a dispositional variable (Luthans, 2002). According to this perspective, resilience will not only enable individuals to restore equilibrium when faced with adversity (Youssef & Luthans, 2007), but also allow them to grow and thrive (Lengnick-Hall et al., 2011). The PsyCap measure (Avey et al., 2009), in which resilience is a constituent, attempted to investigate resilience as an outcome in the workplace context. Yet, being among the early attempts to study occupational resilience, it was not without criticisms regarding its conceptualisation of resilience for its lack of ecological validity (McLarnon & Rothstein, 2013). In other words, the state-like characteristics of resilience in the PsyCap framework was not sufficiently articulated by the authors to make resilience distinctive from its alternative trait-like definitions put forward by earlier literature. Hence, a measure of individual resilience that satisfies both requirements – to be framed in the workplace context and able to capture a developable capability rather than a trait - has been absent from the literature.

Therefore, despite the preliminary findings and directions, resilience research is hindered by the multitude of construct definitions and measurement approaches (Southwick & Charney, 2012). Recently, a definition and measurement tool that captures employee resilience have been advanced and will be used in the present study. Employee resilience is

defined herein as the “capacity of employees, facilitated and supported by the organisation, to utilise resources to positively cope, adapt and thrive in response to changing work circumstances” (p.3) (Näswall et al., 2013). Facets of employee resilience include “change readiness”, “continuous learning/adaptive capacity”, and “utilisation of networks” (p. 4) (Näswall et al., 2013). From this perspective, employee-centric resilience reflects a capacity to aptly respond to a challenging workplace events, which can be developed and enhanced by certain support systems in the organisation, including sound leadership. In addition, organisational factors including leadership and perceptions of managerial practices have been found to strongly relate to psychological empowerment, which can be linked to employees’ learning and adaptive capacities especially to change (Bardoel, Pettit, De Cieri, & McMillan, 2014; Seibert, Wang, & Courtright, 2011). This finding, together with existing theories into the supportive roles of the organisation to resilience development (Lengnick-Hall & Beck, 2011; Seville et al., 2006), puts an emphasis on investigating the the impacts of organisation’s leadership on employee-level resilience. Therefore, this new behaviour-based conceptualisation and measure of resilience, with its specific occupational focus, triggers the investigation of possible antecedents and relevant mechanisms.

### **Leadership and Employee Resilience**

While there can be many organisational enablers that contribute to individual resilience in an occupational context, few studies have empirically examined these relationships (Harland et al., 2004; Luthans & Avolio, 2003). Harland et al. (2004) found a positive relationship between transactional and transformational leadership behaviours, and subordinate resilience. However, their conceptualisation of resilience was limited to learning and successful coping (i.e., restoration of equilibrium) (Harland et al., 2004; Moos & Schaefer, 1993) and did not include growth-oriented facets of the construct, namely adaptability (Lengnick-Hall & Beck, 2011; Näswall et al., 2013). Among the variety of leadership approaches in the literature, two specific behaviours stand out in their potential connections with the discussed resilience.

These are empowering and contingent reward leader's behaviours. Empowering leadership was the variable of interest because despite its increasing popularity in both academic streams and practices of leadership as directly influencing employees' change readiness (Ahearne, Mathieu, & Rapp, 2005; Pearce & Sims, 2002), it is not yet known how this leadership approach can affect and enhance subordinates' resilience. Contingent reward leadership is also worth investigating in its direct impact on employee resilience as most studies to date have only focused on comparing it as a dimension of transactional leadership and its inferiority or lesser desire than transformational leadership (Bass, Avolio, Jung, & Berson, 2003; Breevaart et al., 2014; Epitropaki & Martin, 2005; Harland et al., 2004; Pearce & Sims, 2002). Considering the lack of research on the direct effects of leadership on resilient employee behaviours, this research aims to uncover these linkages in relation to these two specific leadership approaches.

### **Empowering Leadership Behaviours**

Although there are arguments associating individual resilience with effective types of leadership such as transformational leadership, there is a knowledge gap in this understanding how leadership can affect subordinates' resilience (King & Rothstein, 2010). While empowering leadership has been referred to delegating authority (Dierendonck & Dijkstra, 2012), its definition can go beyond the delegation of tasks. It involves the continuous sharing of responsibility with the follower, enhancing the meaningfulness of work and conveying the leader's confidence in the follower (Ahearne et al., 2005; Mills & Ungson, 2003). These behaviours can subsequently improve the follower's attitudes, commitment and satisfaction (Seibert et al., 2011). In addition, leaders can empower employees by ensuring participation in decision-making, showing concerns and providing support when needed (Ahearne et al., 2005; Scott, Hui, & Elizabeth, 2013). As the aim of empowering leadership is to develop employees' self-management skills, and a facet of employee resilience is to utilise

organisation's resources available to them to learn and adapt new skills, it is expected that an empowering leadership approach will relate to employee resilience (Luthans, 2002; Pearce & Sims, 2002).

Hypothesis 1. Employee perceptions of empowering leadership behaviours will be positively associated with employee resilience.

### **Contingent Reward Leadership Behaviours**

Defined as the “degree to which a leader administers positive reinforcers, such as recognition, acknowledgement, and commendations, contingent upon high performance” (p.813) (Podsakoff, Todor, & Skov, 1982), Contingent Reward (CR) behaviour focuses on setting clear and specific outcomes, rewards and responsibilities, thus stimulating subordinate positive coping capacity. Further, as employee resilience conceptualised by Näswall et al. (2013) includes a learning orientation, which involves seeking feedback, learning from mistakes and re-evaluating self performance, feedback plays an important role in developing one's awareness and identifying needs for improvement (London, Larsen, & Thisted, 1999). In CR leadership, tangible rewards as well as special recognition and commendation for achievements can be seen a form of feedback and motivation for employees towards not only achieving the set goals but also to continuously develop themselves. Previous research has supported this view by establishing positive links between CR leadership and outcome variables such as subordinates' performance, satisfaction (Podsakoff et al., 1982), and more recently, approach-coping resilience (Harland et al., 2004). Hence, this leadership approach is expected to positively relate to the behaviour-based construct of employee resilience postulated previously.

Hypothesis 2. Employee perceptions of contingent reward leadership behaviours will be positively associated with employee resilience.

## **Individual Differences and Employee Resilience**

Although the effects of certain leadership behaviours (e.g. transformational leadership) on followers have been extensively researched (Bass, 1999; Harland et al., 2004; Tims, Xanthopoulou, & Bakker, 2011; Zhu, Avolio, & Walumbwa, 2009), the characteristics of followers may play a role in moderating the effects of leadership on follower outcomes (Zhu et al., 2009). In previous studies, employees with characteristics such as high self-esteem, achievement orientation and risk taking were more likely to be influenced by transformational leaders, and to develop and perform more effectively overtime (Ehrhart & Klein, 2001). Dispositional traits such as the big Five traits and followers' characteristics such as active learning have also been found to moderate the impacts of leadership on outcomes such as employees' performance and engagement (Chi & Ho, 2014; W. Zhu, B. J. Avolio, & F. O. Walumbwa, 2009). However, attempts to thoroughly study the role of followers' personality in the leader-follower dyad were still neglected (Hetland, Sandal, & Johnsen, 2008). Hence, while resilient behaviours can be fostered through empowering, supportive and directive leadership (Harland et al., 2004), it is plausible that the extent to which individuals exhibit these behaviours at work should be influenced by individual differences. The two specific personality traits that were investigated in their interactions with the two leadership approaches discussed earlier on employee resilience were proactive personality and optimism.

### **Proactive Personality**

Proactive personality is a trait that may dispose employees toward change-ready and adaptive behaviours (Seibert, Crant, & Kraimer, 1999). Employees with proactive personality are more likely to take initiative in managing their careers (e.g. conduct more career planning), seek support and leverage the resources available (Ashford & Black, 1996). It is also argued that those with coping mechanisms that allow them to be more flexible and rational could thereby be more resilient (Tugade, Fredrickson, & Barrett, 2004). As the



definition of employee resilience earlier refers to the capacity to utilise resources from the organisation to adapt and thrive, it is expected that this personality trait will have a positive relationship with employee resilience. Moreover, employees higher in proactive trait may be more disposed to utilise networks and resources offered by empowering leaders, and take better advantage of supportive behaviours from leaders. Therefore, it is expected dispositional proactivity will interact with empowering leadership in enhancing employee resilience.

Hypothesis 3a. Proactive personality will be positively associated with employee resilience.

Hypothesis 3b. Proactive personality is expected to moderate the relationship between empowering leadership and employee resilience, such that empowering leadership will be more strongly related to employee resilience at high levels of proactive personality.

### **Optimism**

Optimism is defined as a “generalised tendency to expect positive outcomes” (p.220) (Scheier & Carver, 1985). Optimistic individuals tend to more accurately point the causes of successes and failures, and correctly assign responsibility to themselves or to other relevant parties (Seligman & Csikszentmihalyi, 2000). Optimism has been shown to consistently predict resilience, as well as to enhance employee’s commitment towards change, in the presence of ethical leadership and perceived leader’s effectiveness (Dierendonck & Kool, 2012; Harland et al., 2004). Recent research also found positive affect, which can be closely linked to optimism, to be associated with resilience from a coping perspective (Lee et al., 2011). This suggests that followers with higher levels of optimism may also be more likely to exhibit resilient behaviours (e.g., adaptability, learning from mistakes), given clear guidance and support from the leader. In addition, as CRs leadership involves the communication and provision of positive outcomes (i.e. rewards and recognition) (Camps & Torres, 2011; Podsakoff & Todor, 1985; Podsakoff et al., 1982) following desired performance levels, it is

expected that for employees with higher optimism, the relationship between contingent reward leadership and employee resilience will be stronger, such that employees with higher levels of optimism will show more resilient behaviours when their leaders show higher CR behaviours.

Hypothesis 4a. Optimism will be positively associated with employee resilience.

Hypothesis 4b. Optimism is expected to moderate the relationship between CR leadership and employee resilience, such that CR leadership will be more strongly related to employee resilience at high levels of optimism.

Figure 1 and 2 attempt to illustrate the hypotheses put forward by the study and the exploratory models for the relationships between employee resilience and leadership approaches. The two figures also propose the moderating roles of personality as individual differences in the strength of the relationships.

Figure 1. The moderating effect of proactive personality on the relationship between empowering leadership and employee resilience

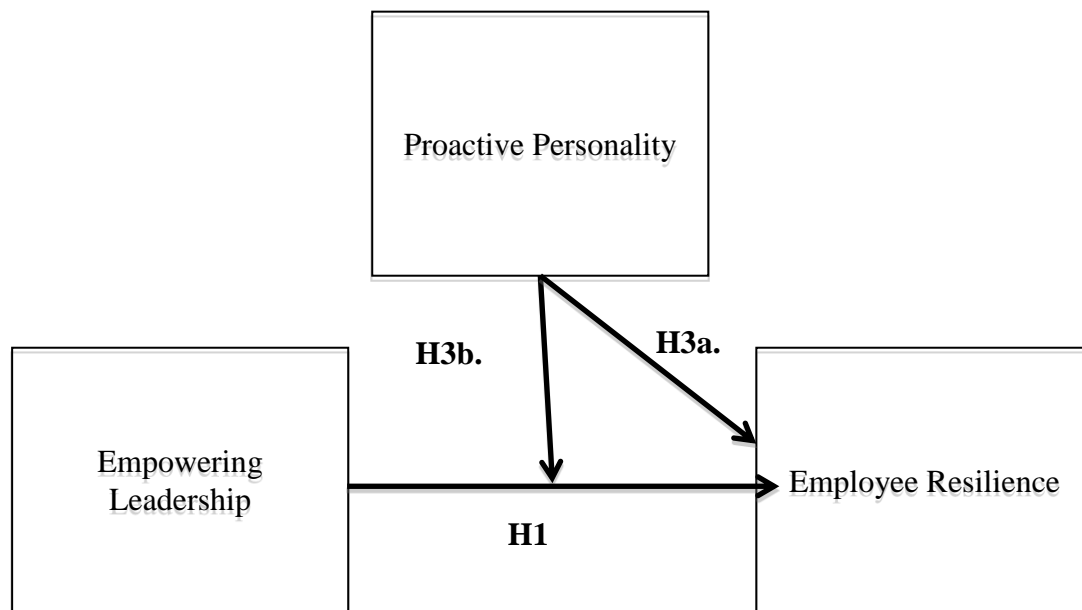
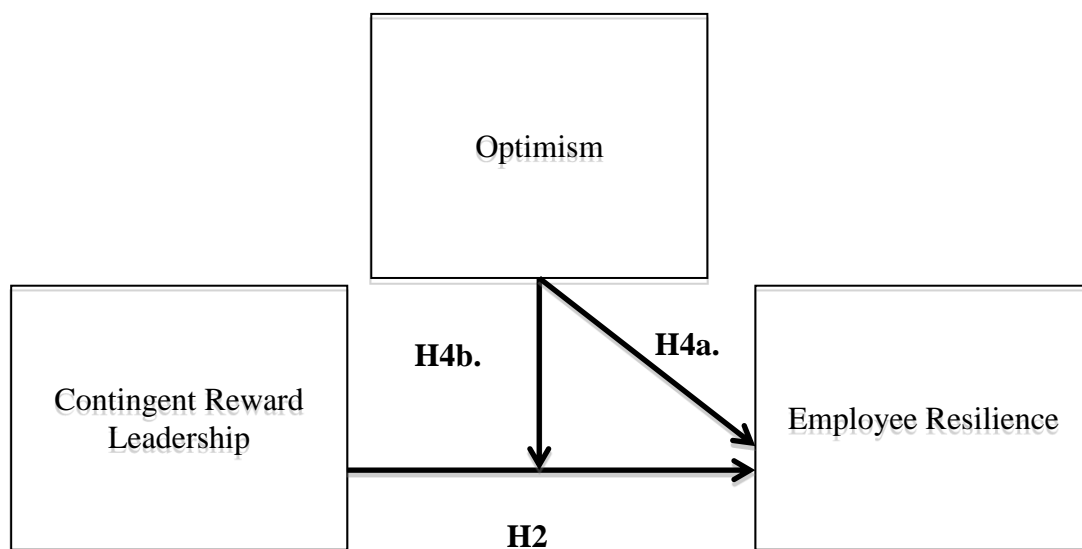


Figure 2. The moderating effect of optimism on the relationship between contingent reward leadership and employee resilience



## **Methods**

### **Participants**

Participant criteria include working professionals who did not own a business. Using snowball sampling, professional workers were recruited by being sent an invitation to the online questionnaire across professional networks such as the Human Resources Institute of New Zealand (HRINZ) and LinkedIn professional forums. In addition, managers of several organisations were approached and invited to forward the link to the questionnaire to other employees in their organisations. The total number of respondents was 369, which makes the sample size appropriate for subsequent factor analyses, according to recommendations for survey studies (Comrey, 1988; Tinsley & Tinsley, 1987).

Among participants in the sample, 61.5 per cent was female and 33.1 per cent was male (5.1 per cent did not state their gender). 314 respondents (comprising 85.1 per cent) were full-time workers, 46 people (12.5 per cent) were part-time workers, and 6 people (3 per cent) were in other types of employment contracts (such as casual and fixed-term workers), while 3 did not provide this information. The sample's mean age was 41.60 years ( $SD = 11.93$ ), ranging from 21 to 71 years. Participants had a mean tenure of 6.71 years ( $SD = 7.73$ ), ranging from a minimum of 1 year to a maximum of 41 years, and a mean length of working with their immediate supervisors of 3.18 years ( $SD = 3.78$ ), ranging from 0 to 29 years.

### **Measures**

An online questionnaire, which consisted of five measures and 30 items, was designed and administered using Qualtrics. The order of items of each scale on Qualtrics was randomised to control for order effects. The complete questionnaire can be found in Appendix B.

At the start of the questionnaire, participants were asked to provide demographic information about their age, job title and contract, relationship length with current immediate supervisor, and tenure.

All items were rated on a 5-point Likert scale. For employee resilience, the ratings ranged from 1 (never) to 5 (always). For the remaining scales, ratings ranged from 1 (strongly disagree) to 5 (strongly agree).

*Employee resilience* was assessed using the scale developed by Näswall et al. (2013). Examples of some items are: “I effectively collaborate with others to handle challenges at work”, “I learn from mistakes at work and improve the way I do my job”). Higher ratings represent higher resilience in employee’s behaviours. Cronbach’s alpha for reliability of the scale was .86 (Näswall et al., 2013).

To assess *empowering leadership*, the ten-item Leadership Empowerment Behaviours scale (Ahearne et al., 2005) was used. This scale aims to assess these four empowering behaviours: “enhancing the meaningfulness of work”, “fostering participation in decision making” “expressing confidence in high performance”, and “providing autonomy from bureaucratic constraints” (pp.949). Cronbach’s alpha for internal consistency reported by the scale authors was .88 (Ahearne et al., 2005). To ensure wording consistency referring to the leader in the current study, the word “manager” in the original scale was replaced by “supervisor” for all ten items. Examples of the items include: “My supervisor often consults me on strategic decisions”, “My supervisor believes in my ability to improve even when I make mistakes”. Higher ratings in responses correspond to more empowering leader’s behaviours.

To measure leader’s behaviour of *contingent reward orientation*, the leader’s performance contingent reward behaviours scale by Podsakoff et al. (1982) was used. This scale examined the extent to which a leader positively reinforces the employee in the forms of recognition and acknowledgement, contingent on employee’s performance, according to the employee’s

perceptions. From the original ten-item scale, four items directly oriented to reward behaviours were selected. Examples of the items are: “My supervisor gives me special recognition when my work performance is especially good”, “My supervisor commends me when I do a better than average job”. Higher ratings reflect more contingent-reward oriented supervisor’s behaviours. Cronbach’s alpha found for the scale was .93 (Podsakoff et al., 1982).

*Proactive personality* was measured using the ten-item scale developed by Seibert et al. (1999). Examples of this scale include: “I excel at identifying opportunities”, “Wherever I have been, I have been a powerful force for constructive change”. Higher ratings reflect higher proactive personality. Cronbach’s alpha for this scale was found to be .86.

For *optimistic personality trait*, four items measuring optimistic orientation from the revised Life Orientation Test (Scheier, Carver, & Bridges, 1994) were selected. The item “I hardly ever expect things to go my way” was adapted to a positive statement: “I almost always expect things to go my way”. Some examples are: “In uncertain times, I usually expect the best”, “I’m always optimistic about my future”. Higher ratings reflect higher optimistic personality. Cronbach’s alpha for the optimism scale was .70 (Glaesmer et al., 2012)

## **Procedure**

The first version of the online questionnaire on Qualtrics was piloted using a sample of eleven Canterbury University students and staff to identify potential ambiguity and errors in expression, format and design. Following this, a power analysis was conducted, using a statistical programme known as G Power (Faul, Erdfelder, Buchner, & Lang, 2009) to determine the sufficient sample size to guarantee appropriate statistical power. Results produced by the programme are shown in appendix A. In order to recruit participants, invitations including the web links to the Qualtrics questionnaire were posted on online platforms of large professional networks such as the Human Resources Institute of New

Zealand (HRINZ), LinkedIn professional forums, the University of Canterbury alumni association. Managers of large organisations in New Zealand were also approached to forward the invitation to their employees via work emails. Incentives by means of shopping vouchers were utilised and information about prize draws was included in the invitations. The questionnaire started with an introduction page, which states the purpose of the research, explanation of the consent, and the prize draw for participants completing the questionnaire for New Zealand participants. Once the participant had confirmed their consent to participate, the next page would follow, starting with demographic questions about age, tenure, gender and job title. The measures and their items began on subsequent pages, with item orders randomised for each scale. Participants were also informed at the start of each scale that the subsequent items were about work-related attitudes instead of being given the constructs' names to avoid interpretation biases. After each measure, a comment box was available for additional comments. If the participant completed the whole questionnaire, the final page would notify them of responses being recorded and thanking them for their participation. There was also a link to the prize draw page for those who wanted to enter the draw. It was stated that personal information such as names and addresses were separated from their responses in the questionnaire. The questionnaire was kept active on Qualtrics for two months, after which it was closed from participation for the analyses. The research was reviewed and approved by the University of Canterbury Human Ethics Committee.

## **Results**

All statistical procedures and analyses were conducted SPSS version 21 for Macintosh operation systems.

### **Measures Adequacy**

Exploratory factor analyses were performed for all scales used in the questionnaire.

Missing values were treated by list-wise deletion. As the employee resilience scale was a new scale, it was factor analysed in SPSS using principal axis factoring extraction and the oblique (direct oblimin) rotation, assuming correlations between the factors involved. Results showed that the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .79, which was a good value according to Kaiser (1974). This suggested that factor analysis was appropriate. Further, Barlett's test of sphericity also showed significant results,  $\chi^2 = 524.67$ ,  $p < .001$ , which also confirmed that factor analysis was possible. Results of factor analysis showed two factors were extracted on the basis of Eigenvalues  $> 1$  according to Kaiser's criterion (Kaiser, 1960). The scree plot (Cattell, 1966) also supported this finding by showing that the first components explained most information in the data. Employee resilience items loadings, factors' eigenvalues and percentages of variance accounted for by each factor are presented in Table 1, with loadings .30 and over being bolded, as this is the level of factor loadings generally regarded as moderate (Kline, 1994; Laher, 2010).

Table 1.  
*Factor Loadings for 9-item Employee Resilience Scale using Principal Axis Factoring and Oblique Rotation (Direct Oblimin)*

Item	Factors	
	1	2
1 I effectively collaborate with others to handle challenges at work	<b>.40</b>	-.14
2 I successfully manage a high workload for long periods of time	<b>.64</b>	.19
3 I resolve crises competently at work	<b>.53</b>	.01
4 I effectively respond to feedback, even criticism	<b>.31</b>	-.18
5 I re-evaluate my performance and continually improve the way I do my work	<b>.45</b>	-.14
6 I approach managers when I need their support	-.12	<b>-.78</b>
7 I learn from mistakes at work and improve the way I do my job	.21	<b>-.47</b>
8 I use change at work as an opportunity for growth	<b>.35</b>	-.29
9 I seek assistance at work when I need specific resources	.08	<b>-.61</b>
Eigenvalue	2.90	1.27
Percentage of variance (after extraction)	23.81	7.34
Factor correlations	-.43	

*Factor criterion: Eigenvalue  $> 1$ .*



As shown by results in table 1, factor 2 accounted for a much smaller percentage of variance in resilience than factor 1. Moreover, results of reliability analysis showed that the removal of items 6,7 and 9 resulted in Cronbach's alpha for reliability of the whole scale dropping from .73 to .65. This did not justify the removal of these three items. Thus, the 9 items were retained for further analyses.

As it was newly conceptualised, Employee Resilience was subjected to discriminant validity testing to distinguish it from the personality traits, to which resilience had previously been associated (Avey et al., 2009). Results of a further factor analysis consisting of the Employee Resilience, Proactive Personality and Optimistic Personality scales are shown in table 2. From the table, it could be seen that items from the 9-item Employee Resilience scale loaded separate factors from those of the Proactive and Optimistic Personality scales. This suggests that theoretically, the employee resilience construct can be distinctive from the personality traits of being proactive and optimistic.

Table 2.

*Discriminant Validity Test Results: Factor Loadings for the 9-item Employee Resilience, Proactive Personality, and Optimism Scales using Principle Axis Factoring and Oblique Rotation (Direct Oblimin)*

		Factors				
Item		1	2	3	4	5
Employee Resilience						
1	I effectively collaborate with others to handle challenges at work.	-.12	.23	.03	<b>.40</b>	.13
2	I successfully manage a high workload for long periods of time.	.06	-.07	.07	<b>.52</b>	.02
3	I resolve crises competently at work.	-.03	.05	.08	<b>.57</b>	-.16
4	I effectively respond to feedback, even criticism.	.03	.29	-.06	.21	.01
5	I re-evaluate my performance and continually improve the way I do my work.	.16	<b>.27</b>	.03	.26	.09
6	I approach managers when I need their support.	-.07	<b>.73</b>	.03	-.15	-.05
7	I learn from mistakes at work and improve the way I do my job	.13	<b>.55</b>	-.07	.07	.01
8	I use change at work as an opportunity for growth.	.19	<b>.38</b>	.14	.16	.15
9	I seek assistance at work when I need specific resources.	-.09	<b>.62</b>	.09	.05	.03
Proactive Personality						
1	I am constantly on the lookout for new ways to improve my life.	<b>.55</b>	.12	.03	-.13	.03
2	Wherever I have been, I have been a powerful force for constructive change.	<b>.50</b>	.04	.19	.02	.00
3	Nothing is more exciting than seeing my ideas turn into reality.	<b>.50</b>	.08	.14	-.09	-.04
4	If I see something I don't like, I fix it.	<b>.53</b>	.06	.04	.10	-.04
5	No matter what the odds, if I believe in something, I will make it happen.	<b>.83</b>	-.07	-.02	-.00	.28
6	I love being a champion for my ideas, even against others' opposition.	<b>.63</b>	-.07	.02	.11	-.09
7	I excel at identifying opportunities.	<b>.53</b>	.19	-.00	.02	-.25
8	I am always looking for better ways to do things.	<b>.54</b>	.19	-.00	.02	-.25
9	If I believe in an idea, no obstacle will prevent me from making it happen.	<b>.72</b>	-.13	.02	.01	.09
10	I can spot a good opportunity long before others can.	<b>.57</b>	-.12	.01	.16	-.27

Table 2. (continued)

*Discriminant Validity Test Results: Factor Loadings for the 9-item Employee Resilience, Proactive Personality, and Optimism Scales using Principle Axis Factoring and Oblique Rotation (Direct Oblimin)*

Optimism						
1	In uncertain times, I usually expect the best.	-.00	-.05	<b>.61</b>	.10	.14
2	I'm always optimistic about my future.	.11	.06	<b>.63</b>	.03	.09
3	I almost always expect things to go my way.	.06	-.10	<b>.52</b>	.05	-.04
4	Overall, I expect more good things to happen to me than bad.	-.04	.10	<b>.62</b>	-.07	-.14
Eigenvalue		5.74	2.53	1.61	1.29	1.03
Percentage of variance (after extraction)		22.56	8.40	4.45	2.87	2.13
Factor correlations		2	.13			
		3	.40	.18		
		4	.26	.32	.26	
		5	-.18	.04	-.03	.01

From Table 2 results, Employee Resilience items 1, 2 and 3 loaded on a different factor from items 4, 5, 6, 7, 8, and 9. Items 4 to 9 were then factor analysed using principal axis factoring to investigate whether they all loaded on one factor without other scales involved. Results (table 3) showed one factor was extracted, with improved variance accounted for in employee resilience by these items from the original 9-item factor analysis results (see table 1). Item loadings were also much higher compared to the first factor analysis consisting of all 9 items. In addition, Cronbach's alpha for the 6-item scale of items 4 to 9 was found to be .70, which sufficed the recommended lower bound for an estimate of internal reliability (Nunnally, 1978), while alpha for the 3-item group consisting of items 1, 2 and 3 was only .54, justifying the decision to remove these three items from further analyses. Corrected Item-total correlations for items 4 to 9 also exceeded the recommended threshold of .30 (Nunnally, 1978), ranging from .32 to .49. Although item 4's loading was marginally at the threshold of .30, being .29, it was still retained as it contributes to the overall consistency of the measure, shown by results of the reliability analysis. Thus, the factor represented by items 4, 5, 6, 7, 8

and 9 were retained for the revised Employee Resilience scale, for which a composite score was then created as an index for the employee resilience variable for subsequent hypothesis testing.

Table 3.

*Factor Loadings for 6-item revised Employee Resilience Scale using Principal Axis Factoring and Oblique Rotation (Direct Oblimin) with Original Item Numberings*

		Factor
Item		1
4	I effectively respond to feedback, even criticism.	.38
5	I re-evaluate my performance and continually improve the way I do my work.	.44
6	I approach managers when I need their support.	.59
7	I learn from mistakes at work and improve the way I do my job	.65
8	I use change at work as an opportunity for growth.	.54
9	I seek assistance at work when I need specific resources.	.60
Eigenvalue		2.43
Percentage of variance (after extraction)		29.12

*Factor criterion: Eigenvalue > 1.*

Factor analysis using principal axis factoring (oblique rotation) conducted for the Performance Contingent Reward leader's behaviours scale showed that one factor was extracted (table 4). The factor also reasonably explained variance in leader's contingent reward behaviours shown by 69 per cent. The scale had high internal consistency, with a coefficient alpha of .90. Corrected item-total correlations of the four items ranged from .76 to .78.

Table 4.

*Factor Loadings for 4-item Performance Contingent Reward Leader's Behaviour Scale using Principle Axis Factoring and Oblique Rotation (Direct Oblimin)*

Item	Factor 1
1 My supervisor gives me special recognition when my work performance is especially good.	.84
2 My supervisor commends me when I do a better than average job.	.84
3 My supervisor informs his boss and/or others in the organization when I do outstanding work.	.81
4 If I do well, I know my supervisor will reward me.	.84
Eigenvalue	3.07
Percentage of variance (after extraction)	69.00

*Factor criterion: Eigenvalue > 1.*

although the authors claimed that the scale was uni-dimensional (Ahearne et al., 2005), results of factor analysis for the Leader's Empowerment Behaviours scale showed two factors extracted (table 5). Using oblique rotation and principle axis factoring extraction, items 1,2 and 3 loaded on a different factor from items 4 to 8. Together, the two factors explained 55.95 per cent of variance in empowering leader's behaviours measured by the scale, after extraction. In terms of items content, a possible explanation for the extraction of two factors is that items 1,2 and 3 seem to refer to empowering behaviours oriented to the organisation's larger goals and vision, whereas items 4 to 10 were empowering behaviours relating to day-to-day operational tasks and duties. Hence, factor 1 was referred to as Vision-related Empowerment and factor 2, Operational Empowerment. These two became the independent variables under empowering leader's behaviours and were tested in multiple regression as had been previously hypothesised. Coefficient alpha for the 3-item Vision-related empowerment was .92, with their corrected item-total correlations between .81 and .86. Alpha for the 7-item Operational Empowerment was .84, with corrected item-total correlations ranging from .54 to .70.

Table 5.

*Factor Loadings for 10-item Leader's Empowerment Behaviours Scale using Principle Axis Factoring and Oblique Rotation (Direct Oblimin)*

Item	Factors	
	1	2
1 My supervisor helps me understand the importance of my work to the overall effectiveness of the company.	.08	<b>-.85</b>
2 My supervisor helps me understand how my job fits into "the bigger picture."	-.01	<b>-.91</b>
3 My supervisor helps me understand how my objectives and goals relate to that of the Company.	.01	<b>-.88</b>
4 My supervisor often consults me on strategic decisions.	<b>.53</b>	-.25
5 My supervisor makes many decisions together with me.	<b>.61</b>	-.22
6 My supervisor believes that I can handle demanding tasks.	<b>.68</b>	.09
7 My supervisor believes in my ability to improve even when I make mistakes.	<b>.61</b>	-.12
8 My supervisor makes it more efficient for me to do my job by keeping the rules and regulations simple.	<b>.46</b>	-.24
9 My supervisor allows me to do my job my way.	<b>.75</b>	.13
10 My supervisor allows me to make important decisions quickly to satisfy customer needs.	<b>.64</b>	-.01
Eigenvalue	5.02	1.36
Percentage of variance (after extraction)	46.15	9.80
Factor correlations	-.56	

*Factor criterion: Eigenvalue > 1.*

## Hypothesis Testing

### Descriptive statistics

Following factor analyses, indices were created for each measure by calculating the average ratings of items of each subsequent analyses to be performed in hypothesis testing.

Table 6 showed descriptive statistics for all the variables using the studied sample, including bivariate correlations, means, standard deviations and reliability estimates (Cronbach's alphas). Pairwise deletion was used in correlation analyses to avoid loss of data and reduced power. Overall, all the six scales had adequate internal reliability estimates, with coefficient alphas ranging from .70 to .92. From correlation analysis results, employee resilience was significantly positively associated with all independent variables. Among the

correlations, that between employee resilience and operation-oriented empowering leadership behaviours was the strongest and also was a moderate correlation ( $r = .31, p < .01$ ), according to guidelines by (Cohen, 1988). Employee resilience was also positively correlated with vision-oriented empowering leadership behaviours ( $r = .21, p < .01$ ). A significant positive relation was also found between contingent reward leadership and employee resilience ( $r = .26, p < .01$ ) Personality was also shown to positively correlate with employee resilience, with a slightly higher correlation between optimism and resilience ( $r = .25, p < .01$ ) than between proactive personality and resilience ( $r = .24, p < .01$ ).

Table 6.

*Means, Standard Deviations, Cronbach's Alphas, and Pearsons' Correlations Between Variables.*

Variable	N	M	SD	Alpha	1	2	3	4	5	6	7	8	9	10
1. Gender	349	-	-	-	-									
2. Age	348	41.60	11.93	-	.20**	-								
3. Job tenure (years)	271	6.71	7.73	-	.20**	.52**	-							
4. Supervisory relationship length (years)	269	3.18	3.78	-	.17**	.25**	.41**	-						
5. Employee resilience (revised)	366	4.04	.46	.70	.03	.05	-.06	-.01	-					
6. Contingent Reward Leadership	362	3.25	.91	.90	-.05	-.03	-.04	-.02	.26**	-				
7. Empowering Leadership-Vision	340	3.51	.89	.92	.00	.07	-.05	-.03	.21**	.63**	-			
8. Empowering Leadership – Operations	335	3.58	.69	.84	-.10	.08	.02	.09	.31**	.65**	.59**	-		
9. Proactive Personality	331	3.70	.54	.87	-.05	-.01	-.15*	.13*	.24**	-.04	.02	.07	-	
10. Optimism	338	3.52	.64	.71	-.09	.01	-.08	.09	.25**	.14*	.25**	.25**	.39**	-

*Note:* Pairwise deletion; \*  $p < .05$ , \*\*  $p < .001$



### **Multicollinearity**

Although multicollinearity generally occurs when correlation between variables are .80 and higher (Billings & Wroten, 1978), as correlations between Contingent Reward Leadership and the two Empowering Leadership scores exceeded .60 (table 6), this signalled a potential multicollinearity issue and multicollinearity analysis needed to be conducted in subsequent multiple regression, due to the possibility of misinterpretation and misleading results (Hair, 1998). Misinterpretation of results may occur as multicolliearity can increase the standard errors of beta coefficient weights, thus lead to errors in making causal inferences (Billings & Wroten, 1978). An attempt to distinguish the differences in the two measures (contingent reward leadership and empowering leadership) was to conduct factor analysis using principal axis factoring. Results of this test, which included all items of the two scales, revealed that contingent reward leadership items measured a different construct from empowering leadership items, due to the contingent reward items loading on a separate factor from empowering leader items (table 7), thus provided evidence of discriminant validity for the two constructs.

Table 7.

*Evidence for Discriminant Validity between Contingent Reward Leadership and Empowering Leadership scales: Factor Loadings using Principle Axis Factoring and Oblique Rotation (Direct Oblimin).*

Item	Factors		
	1	2	3
<b>Contingent Reward Leadership</b>			
1 My supervisor gives me special recognition when my work performance is especially good.	-.01	.06	<b>-.89</b>
2 My supervisor commends me when I do a better than average job.	.04	.03	<b>-.84</b>
3 My supervisor informs his boss and/or others in the organization when I do outstanding work.	.01	-.10	<b>-.74</b>
4 If I do well, I know my supervisor will reward me.	.01	-.07	<b>-.79</b>
<b>Empowering Leadership</b>			
1 My supervisor helps me understand the importance of my work to the overall effectiveness of the company.	.07	<b>-.88</b>	.03
2 My supervisor helps me understand how my job fits into “the bigger picture.”	-.02	<b>-.92</b>	.00
3 My supervisor helps me understand how my objectives and goals relate to that of the Company.	-.03	<b>-.85</b>	-.06
4 My supervisor often consults me on strategic decisions.	<b>.44</b>	-.23	-.12
5 My supervisor makes many decisions together with me.	<b>.49</b>	-.16	-.22
6 My supervisor believes that I can handle demanding tasks.	<b>.72</b>	.01	.09
7 My supervisor believes in my ability to improve even when I make mistakes.	<b>.53</b>	-.08	-.16
8 My supervisor makes it more efficient for me to do my job by keeping the rules and regulations simple.	<b>.34</b>	.16	-.25
9 My supervisor allows me to do my job my way.	<b>.70</b>	.11	-.05
10 My supervisor allows me to make important decisions quickly to satisfy customer needs.	<b>.64</b>	-.06	.03
Eigenvalue	7.05	1.41	1.06
Percentage of variance (after extraction)	47.77	7.08	5.53
Factor correlations	2	-.53	
	3	-.61	.67

### Multiple Regression Analyses

Multiple regression analyses were performed using, with missing data treated with listwise deletion. As index variables were created for all the scales, including the revised 6-item employee resilience measure as the dependent variable. Other index

variables of the three leadership measures and two personality measures were each centred, by subtracting the mean scores. Interaction terms were also created to facilitate the interpretation of moderation analysis results (Aiken, West, & Reno, 1991), by multiplying each of leadership index variables with the hypothesised moderator (i.e. vision-oriented and operation-oriented empowering leadership indices each multiplied by proactive personality index, and contingent reward leadership index multiplied by optimism index. Collinearity statistics, such as tolerance values, were computed to investigate issues of multicollinearity. Tolerance values for all variables ranged from .48 to .92, suggesting no notable issue with multicollinearity, as a value of .10 is recommended as the minimum level of tolerance and the higher values are desirable (Hair, 1998; Tabachnick & Fidell, 2013). Outliers, normality, linearity and homoscedasticity were also checked and no violation of linear multiple regression assumptions was found. Results of multiple regression analyses are reported in table 8. Unstandardised regression coefficients are reported, unless otherwise specified.

Table 8.  
*Regression Analysis Results*

	Model	<i>b</i>	<i>t</i>	R	R <sup>2</sup>	$\Delta R^2$
1	(Constant)	4.04	166.68	.32	.10	.00
	Operation-oriented	.21**	6.00			
2	(Constant)	4.04	166.48	.32	.10	.00
	Operation-oriented	.19**	4.47			
	Vision-oriented	.02	.53			
3	(Constant)	4.04	166.87	.33	.11	.01
	Operation-oriented	.16**	3.25			
	Vision-oriented	-.01	-.13			
	Contingent Reward	.06	1.57			
4	(Constant)	4.04	172.52	.41	.17	.06**
	Operation-oriented	.13*	2.81			
	Vision-oriented	-.01	-.23			
	Contingent Reward	.08*	2.14			
	Proactive Personality	.21**	4.75			
5	(Constant)	4.04	173.15	.42	.18	.01*
	Operation-oriented	.12*	2.62			
	Vision-oriented	-.02	-.52			
	Contingent Reward	.08*	2.22			
	Proactive Personality	.18**	3.68			
	Optimism	.08	1.82			
6	(Constant)	4.04	172.35	.44	.19	.02
	Operation-oriented	.11*	2.18			
	Vision-oriented	-.02	-.64			
	Contingent Reward	.08*	2.08			
	Proactive Personality	.16**	3.23			
	Optimism	.08*	2.00			
	Operation x Proactive	.16*	1.94			
	Vision x Proactive	.01	.07			
	CR x Optimism	-.03	-.71			

\*  $p < .05$ , \*\*  $p < .001$

**Main effects.** The total variance in employee resilience explained by operation-oriented empowering and vision-oriented empowering leadership, contingent reward leadership, proactive personality and optimism, without the interaction terms, was 17.6 per cent. Without the inclusion of moderators, higher levels of employee resilience were significantly predicted by higher levels of operation-oriented and

contingent reward leadership, shown by their significant direct effects ( $b = .12$ ,  $t(315) = 2.62$ ,  $p < .01$  and  $b = .08$ ,  $t(315) = 2.22$ ,  $p < .05$ , respectively) (table 8). Vision-oriented leadership had a negative direct effect on employee resilience, which was not significant ( $b = -.02$ ,  $t(315) = -.52$ ,  $p = .60$ ). For the personality traits, higher levels of proactive personality significantly predicted higher levels of resilience, whereas higher levels of optimism did not have a significant direct effect ( $b = .18$ ,  $t(315) = 3.68$ ,  $p < .01$  and  $b = .08$ ,  $t(315) = 1.82$ ,  $p = .07$ , respectively). Regression results led to hypothesis 1 partially supported, as high levels in one of the two dimensions of empowering leadership behaviours, namely operation-oriented empowering behaviours, were associated with high levels of employee resilience, while vision-oriented empowering behaviours showed non-significant results. Hypothesis 2 was also supported, as high levels of contingent reward behaviours of leaders were significantly related to high levels of employee resilience. Hypothesis 3a was supported as those scoring high in the proactive traits also showed high levels of resilience. For hypothesis 4a, although the reported beta coefficient in the result did not meet the the cut-off to be statistically significant, the p-value was notably close to the .05 significance level. In addition, the large sample size used in the study suggested reasonable statistical power in the analyses, according to recommendations for sampling size requirements for statistical power of .80 (Aiken et al., 1991; Warner, 2008). Previously, a significant correlation between optimism and employee resilience (see Table 6) was also found. Taken together, these evidence could provide partial support for hypothesis 4a.

***Moderating effects.*** When the interaction terms were added, with proactive personality as the moderator for the relations between each of the two empowering leadership types and employee resilience, and optimism as the moderator between

contingent reward leadership and resilience, the variance accounted for in resilience by the model increased significantly to 19.4 per cent,  $\Delta F(3, 311) = 2.32, p < .05$ . In terms of their regression coefficients, proactive personality was shown to moderate the relationship between operation-oriented empowering leader's behaviours, as the result was significant when the interaction term was added,  $b = .16, t(319) = 1.94, p = .05$ . Direct effects also occurred as both proactive personality and operation-oriented leadership showed significant results with resilience ( $b = .16, t(319) = 3.23, p < .05$  and  $b = .11, t(319) = 2.18, p < .05$ , respectively). This is illustrated by Figure 3. The plot shows at high levels of proactive personality, the more resilient employees are when their leader shows more empowering behaviours in the day-to-day operations on the job. However, proactive personality was not found to moderate the relation between vision-oriented empowering leader's behaviours and employee resilience ( $b = .01, t(319) = .94, p = .94$ ). Hence, hypothesis 3b was partially supported.

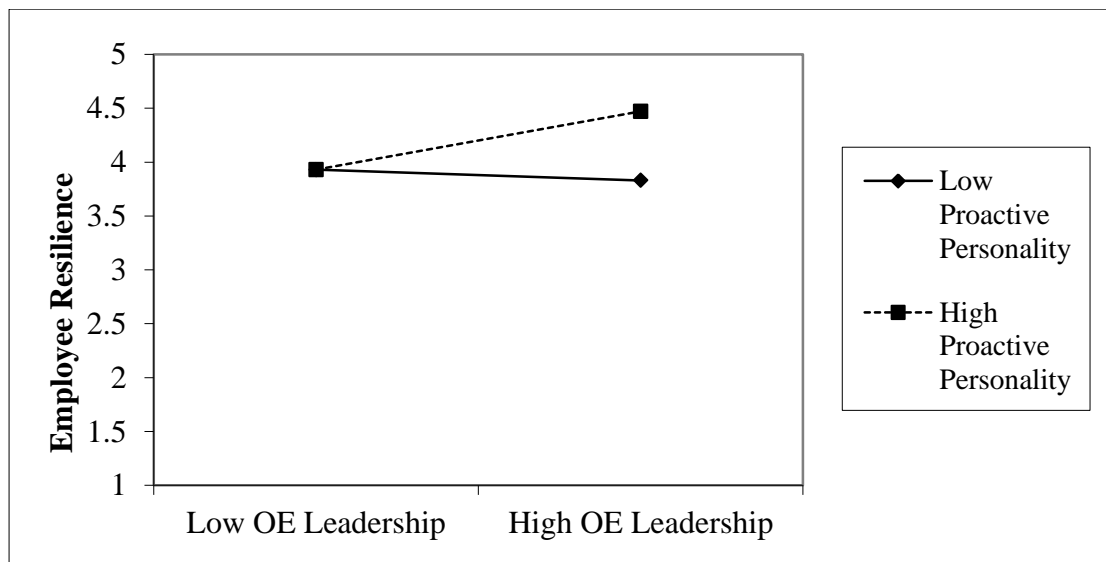


Figure 3. Moderating and main effects of proactive personality on the relationship between operation-oriented empowering leadership and employee resilience.

For contingent reward leadership, optimism was not found to moderate its relationship with employee resilience as result was not significant,  $b = -.03, t(319) = -$

.71,  $p = .48$ . Figure 4 demonstrates this result. However, adding the interaction term caused a direct effect to occur between optimism and resilience as result became just statistically significant,  $b = .08$ ,  $p = .05$ . Together with previous findings regarding the main effects between optimism and resilience, hypothesis 4a could be considered partially supported, while hypothesis 4b not supported.

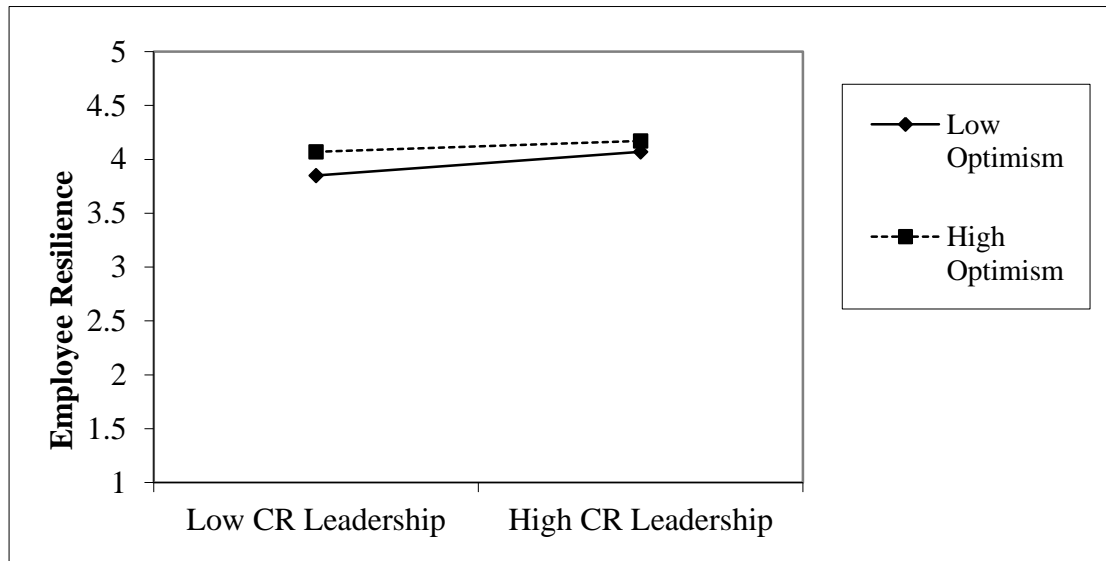


Figure 4. Main effect without moderating effect of optimism on the relationship between contingent reward leadership and employee resilience.

## Discussion

The present study explored the relation between organisational facilitators, specifically leadership and employee resilience, which was an area largely under-researched (Harland et al., 2004; King & Rothstein, 2010). The aim of this research was to offer an understanding of the antecedents to resilience - seen as a set of adaptive and learning-oriented behaviours - in the occupational context, which set the construct apart from its dispositional definition put forward by other research streams into resilience (Avey et al., 2009; Harland et al., 2004; King & Rothstein, 2010; Richardson, 2002; Sutcliffe & Vogus, 2003; Wagnild & Young, 1993). In addition,

this research also set out to investigate the moderating effect of individual differences, namely proactive personality and optimism, on the relation between leader behaviours and followers' resilient behaviours. It was predicted that leader behaviours such as empowering leadership and reward allocation contingent on high performance would be positively associated with high levels of employee resilience. Personality traits, as individual differences, were also predicted to strengthen the relationship between leader behaviours and employee resilience, such that more proactive individuals would more frequently enact resilient behaviours when their leader was highly empowering, and that more optimistic employees would exhibit higher levels of resilience when their leader relied on contingent rewards.

### **Summary of Main Findings**

Exploratory factor analyses for measures used in the study revealed employee resilience (EmpRes) was distinct from the traits of proactivity and optimism that had traditionally been linked to resilience (Alvord & Grados, 2005; Avey et al., 2009). In addition, despite Näswall et al. (2013)'s proposition of a unidimensional construct of employee-centric resilience measured by this scale, the two factors that emerged seem to suggest more than one dimension of resilience being represented by the items.

Although resilience had been argued to be a multidimensional construct, based on its definitions consisting of the diversity of protective factors (McLarnon & Rothstein, 2013; Richardson, 2002), it could not be concluded whether the scale was unidimensional or multidimensional, due to lack of empirical evidence. Moreover, in the present study, the conceptualisation of resilience took on a behavioural perspective, different from previous propositions, more research would be required in order to establish its construct validity and the latent variable underlying the items, using different samples. For the revised version of the scale used (i.e. 6-item scale



instead of the original 9-item scale), moderately good internal consistency was also shown by a Cronbach's alpha of .70.

The study also provides preliminary evidence that resilient behaviours can be developed and facilitated by the organisation by means of enablers such as leadership, as put forward by the literature (Harland et al., 2004; King & Rothstein, 2010). The hypotheses regarding the direct relationship between the two leadership approaches and employee resilience were partially supported. Although empowering leadership was originally hypothesised to be one variable in its relation with employee resilience (hypothesis 1), results showed that this leadership approach consisted of two dimensions, each interacting with employee resilience in different ways. This provided additional insights into the characteristics of empowering leadership behaviours, such that leader behaviours that are perceived to be empowering in daily operational activities, e.g. conveying authority in decision-making and clarifying workplace rules (operations-oriented leadership), were shown to be more effective and important in enhancing employee resilience than behaviours aimed at elucidating the overarching vision and objectives of the organisation (vision-oriented leadership). Although the negative relationship between the latter category of empowering behaviours and employee resilience was not significant, it would be worth researching by future investigation, as empowering leadership has been found not always best practice (Raub & Robert, 2013). For instance, depending on the cultural context in which the organisation operates, employees may or may not effectively learn to develop adaptive and resilient behaviours as their leader prioritised on communicating the strategies instead of the day-to-day operations. The roles of cultural differences were not explored in this study, leaving a possibility for future research.

The significant relationship between contingent reward (CR) leadership and follower's resilience supported hypothesis 2. This was in line with the prediction that providing indicators of leader's expectations regarding employee performance, by means of rewards and recognition, can aid continuous learning and adaptive capacity, which are key facets in the resilience construct (Näswall et al., 2013). Similar supporting evidence can be found by previous research that looked into transactional leadership, to which the CR approach was believed to belong (Harland et al., 2004). Furthermore, rewards can be seen as positive reinforcers that help employees focus on the positive benefits of high performance (Harland et al., 2004). Rewards have been associated with intrinsic motivation and learning, which are related to resilience (Cameron, Pierce, Banko, & Gear, 2005; Heerey, 2014).

For the predicted moderating effect of proactive personality in the relationship between empowering leader behaviours and employee resilience (hypothesis 3b), the results were in line with the literature supporting that individual differences affected the effectiveness of leadership on followers (Ahearne et al., 2005; Chi & Ho, 2014; Epitropaki & Martin, 2005; Hetland et al., 2008; W. Zhu, B. Avolio, & F. Walumbwa, 2009). High levels of proactive personality were found to significantly related to high levels of resilience (hypothesis 3a), and to significantly enhance the positive impacts of operation-oriented empowering leadership on employee resilience (hypothesis 3b). These results were in line with findings of positive relationship between the proactive personality trait with network building and feedback seeking (Chiaburu, Baker, & Pitariu, 2006; Thompson, 2005), which were also facets of the resilient behaviours identified by Näswall et al. (2013). Though research into the role of proactive personality in an occupational context, particularly in its relation with employee resilience, is scarce, there was some supporting evidence from the clinical literature

on the impact of proactive orientation on coping (Alvord & Grados, 2005). Proactive orientation has been linked to self-esteem and self-efficacy (Rutter, 1985b) and problem solving (Werner, 1995). However, what sets this study apart from the previous was, not only was employee resilience given an occupational instead of a clinical conceptualisation, but it was also distinct from proactive personality. This was supported by results of the discriminant validity test, when the items of the two measures were represented by different constructs. Hypothesis 3b was partially supported as the proactive trait only showed significant moderating effect in the relation between operation-oriented empowering leadership and resilience, but not between vision-oriented leadership and the outcome variable. A possible explanation for this significant moderating effect could be that proactive employees, through actively seeking for and identifying opportunities and their perseverance through changes (Bateman & Crant, 1993), could enhance their resilience much more with the facilitating behaviours of their leaders in operational business activities, such as provision of authority and resources in decision-making, and supervisory's trust and feedback (Ahearne et al., 2005) (see measure content in appendix B). For instance, when granted more authority by their leader in decision-making, proactive employees – who often show more initiative than others, can obtain resources more quickly to get the job done, by utilising networks in the organisation with their proactivity. Additionally, through constantly looking for better ways to improve their performance, according to the definition of proactive personality used in this study (Bateman & Crant, 1993), when equipped with their supervisor's trust in their ability to learn from mistakes, employees can learn and adaptive faster, thereby develop higher levels of resilience than others.

Although no study has attempted to demonstrate the role of optimism in the

relationship between leadership and employee resilience (hypothesis 4b), results provided some suggestions for a possible interaction between optimism and leadership in influencing employee resilience. When tested for its relation with resilience in isolation, optimism was not significantly associated with resilience. However, when the interaction effect (optimism and CR leadership) was accounted for, the relationship between optimism and resilience became significant (hypothesis 4a). This opened a path for further investigation in the future in how dispositional optimism could interact with other leadership styles on impacting employee resilience.

### **Implications of Findings**

The present study contributes to the continuous development of the employee-centric resilience measure, thereby contributing to the resilience literature. By offering a behavioural framework of employee-level resilience, it attempted to clarify and unify the vast literature into resilience that is yet in agreement on a universal definition for this phenomenon. It also endeavoured to study resilience in an occupational context, apart from the already existing clinical streams (e.g. (Alvord & Grados, 2005; Lee, Sudom, & Zamorski, 2013; Wagnild & Young, 1993)), as well as differed from other trait-based qualities such as those of the PsyCap framework (Avey et al., 2009) and disintegrated process-based perspectives that attempted to link resilience to self-regulatory, protective and situational processes (King & Rothstein, 2010; McLarnon & Rothstein, 2013; Moenkemeyer et al., 2012). By investigating possible organisational antecedents of resilience, such as leadership, and the impacts of individual differences, findings of the study raised awareness in the importance of understanding factors contributing to a resilient workforce. As asserted by researchers, although crisis management strategies and business contingency planning

can be help enhance resilience, there is a need for organisations to establish effective and clear leadership, which involves communicating expectations, goal setting, and following up on shared responsibilities (Fleming, 2012; Seville et al., 2006). The findings also implied new grounds for potential future directions on this topic.

Practical implications of this research can include improved knowledge on the importance and moderating roles of individual differences, particularly personality traits, in how the leader impacts their followers, as proposed by the literature (Woolley, Caza, & Levy, 2011). It is essential for leaders to be aware that one leadership approach or set of behaviours may not equally affect all employees. Similarly, employees should also be mindful of their own tendencies and personality traits, and how these may possibly affect their learning orientation as well as help explain their differences from others in interacting with the same behaviours from their supervisors. This can show major application in career coaching and training interventions for leaders and followers alike. Findings of organisational antecedents on employee resilience can also benefit other human resources practices (Bardoel et al., 2014), among which is performance management. The present study highlights the importance of the provision of resources (e.g. information, decision-making power) and support by means of providing feedback contingent on performance (i.e. contingent reward leadership), allowing authority over decision-making and participation in important organisational events, and encouraging of learning from mistakes (i.e. empowering leadership) (Ahearne et al., 2005). Further, the knowledge of what behaviours constituted workplace resilience (e.g. active learning, utilising network and resources...) (Näswall et al., 2013) could contribute to the development of a practical workplace resilience training programme (Bardoel et al., 2014).

## **Limitations and Future Research Directions**

Despite its contributions to the literature and business practices, some limitations can be recognised in the present study. First, as the study took on the survey design with self-reported ratings, a number of issues should be acknowledged, among which was social desirability bias in ratings (Donaldson & Grant-Vallone, 2002; Spector, 1994). Social desirability refers to the possibility that respondents may have been motivated to portray themselves to others in a desirable or positive light (Donaldson & Grant-Vallone, 2002). In addition, not only participants' ratings of themselves but also of their perception towards their leaders were susceptible to biases such as the halo effects (Campbell & Fiske, 1959; Lievens, Geit, & Coetsier, 1997; Thorndike, 1920). This occurred when the majority of ratings had moderate to high composite means. Among the variables measured in the study, descriptive statistics for the variables showed that their composite mean values ranged from 3.25 to 4.04 (table 6), with employee resilience having the highest composite mean of 4.04, among others. An attempt to minimise the risk of social desirability as much as possible was to not provide participants with the scale labels and construct definitions. Common method variance bias could also be another issue causing difficulty in interpreting the causal and correlational relationships (Donaldson & Grant-Vallone, 2002; Spector, 1994). A recommendation with regards to issues of common method variance and social desirability for future research is the use of multiple sources of raters (Lievens et al., 1997; Spector, 1994), particularly for the measure of leader's behaviours. The variety of rating sources could include managers, peers, and customers, where it would be applicable.

Secondly, a limitation of this research was its cross-sectional design. As individuals were questioned of their resilience level at one point in time, ratings and

results did not provide the whole picture, especially of their continuous resilient behaviours as being under the influence of on-going leadership approaches. Moreover, information of the independent variables (i.e. empowering and contingent reward leadership, proactive personality and optimism) was also collected simultaneously with the outcome variable. Therefore, the levels of resilience rated by the respondents might not have been solely due to effective leadership (e.g. providing feedback and rewards contingent on high performance, empowering behaviours) but might have been the outcome of other factors not tested in this study. As resilience has been argued to be a developable capacity (Avey et al., 2009; Näswall et al., 2013), and leadership approaches can be effectively learned and trained by organisational interventions (Kumar, Adhish, & Deoki, 2014; McElroy & Stark, 1992; Sinha & Parry, 2005), the relation between leadership and employee resilience could be expected to change over time and the effects could vary across leadership styles. The direction of causality of the relationships was thus questionable (Spector, 1994). Nevertheless, the cross-sectional design used in the present research can be seen as the first step in studying individual workplace-oriented resilience in relation to the leader's behaviours and employees' differences in dispositional traits. Future studies should consider examining these variables in a longitudinal design to capture the direction of causality and provide a more in-depth understanding of the nature of the relationships proposed in this study.

Another source of bias could occur from the demographic make-up of participants. From demographic information, the number of female participants was almost twice as much as the number of males. This could be due to the pool from which the participants were recruited. As invitations to participate in the research was sent using professional networks of human resources (e.g. HRINZ), although it was not known

how many were recruited via that specific channel, it is possible the human resource field was known for being female-dominated. Impacts of gender have been found to affect the leader-follower relationships. For instance, female individuals were found to be more concerned with task-related support (e.g. encouragement to participate in the task and to question, resource allocation support, providing help in solving problems) while male individuals with the outcomes (Buttner, 2004). In addition, gender differences were found to moderate the effects of leadership on followers' development of psychological capital (Woolley et al., 2011) and perceptions on leader's behaviours (e.g. decision-making authority) (Larimer & Hannagan, 2010). These differences could result in inflated ratings in the leadership measures, which could reflect gender differences in how the surveyed employees viewed resilience. In the future, caution should be taken when recruiting participants, particularly in the diversity of industries and networks, to ensure representativeness of the sample. Nonetheless, this limitation in the study implied possible research directions, which could involve investigating the effects of gender differences in employee resilience and whether gender would moderate the effects of leadership on follower's resilience.

Due to the limited number of validation studies for this recently developed measure of Employee Resilience, results of this study's factor analyses could be due to limitations in interpretation, specifically rotation solutions and the choice of factor extraction. This could be a direction for future research, which could utilise multiple methods of factor analyses to determine which model (e.g. unidimensional vs. multidimensional model of resilience) would provide the most interpretable factor analysis results (Fabrigar, Wegener, MacCallum, & Strahan, 1999) as well as would fit the theoretical conceptualisation of resilience proposed by Näswall et al. (2013). In addition, the Leader Empowerment Behaviours scale by Ahearne et al. (2005) could



be investigated by future studies by exploring the types of empowering leader behaviours and their interactions with other outcome variables. Further, as results partially supported the hypothesised relation between empowering leadership and resilience, such that only one of the two dimensions of empowerment (operation-oriented empowerment) significantly enhanced employee resilience, future studies are invited to come up with possible explanations and additional evidence that can contribute to the knowledge of this empowering leadership approach. Following the weak negative effects of vision-oriented empowerment on resilience, this could open a possibility to explore the role of cultures (e.g. power distance and organisational cultures) on this specific dimension of empowering leadership as well as on employee resilience. As the sample of participants in the survey predominantly consists of employees in New Zealand organisations, which is a relatively low power distance culture and flat organisational structures, future research may consider employing a more diverse sample.

## **Conclusions**

Resilience is arguably one of the most important competitive advantages that does not only aid the organisation and its employee's recovery processes following crises but also facilitates learning and growth, which subsequently lead to both day-to-day operational and long-term strategic success (Lengnick-Hall & Beck, 2011).

Knowledge of employee resilience on an individual level can contribute to the literature focusing on positive human resource strengths and capacities that can be effectively measured and developed in the workplace (Luthans & Church, 2002). The employee resilience construct developed by Näswall et al. (2013) has met these criteria, contributing to the gap identified earlier of a specifically employee-centric measure of resilience. By distinguishing employee resilience from the dispositional

traits of proactive personality and optimism, this study provides preliminary evidence for resilience as a separate construct and calls for further validation of this scale by future research. Besides, findings of this research has also provided support for important roles played by leadership, specifically empowering leadership with a particular focus on providing the authority, empowerment in decision-making and constructive learning-oriented feedback, and rewards contingent on employee's high performance, on employee's resilience. Value-adding findings on the moderating role of individual differences, namely the proactive personality traits, on the effects of leadership on resilience, can also be practically applied in organisational interventions in various areas such leadership coaching, change management, training and development, and performance management.

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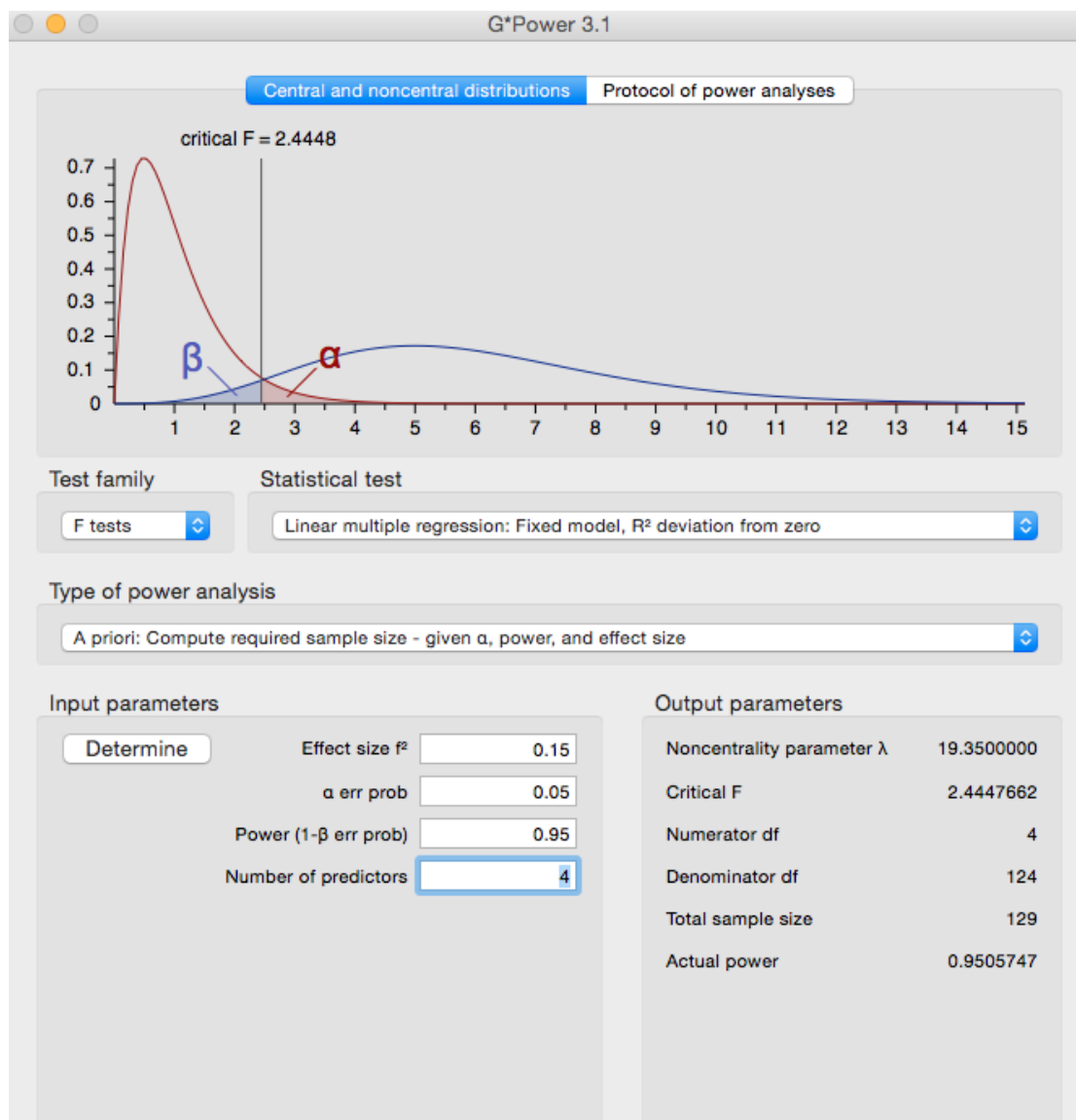
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## Appendices

### Appendix A. Power analysis results using the G Power programme to identify an efficient sample size



## **Appendix B. Qualtrics' Online Questionnaire Content**

### **Information**

You are invited to take part in a research project investigating how leaders can influence behaviours in the workplace. This research is being conducted as part of a dissertation for a Master of Science in Industrial and Organisational Psychology by Quyen Nguyen, under the supervision of Dr Joana Kuntz, at the University of Canterbury.

Your participation in this research involves the completion of this online questionnaire. **The questionnaire will take approximately 15 minutes to complete.**

**Participation in this project will be voluntary and anonymous.** At the end of the questionnaire, should you wish, **you can enter a prize draw to win one of eight \$100 Westfield shopping vouchers.** However, the information you provide will be separated from the survey responses so it cannot be traced back to you, and will only be used to allocate the prizes. Please note: only New Zealand residents are eligible to enter the prize draw.

A thesis is a public document and will be available through the University of Canterbury Library. The results of this research may be published in academic journals. The information you provide will not be linked back to you or the organisation in any way. All data collected for this study will be kept on a protected computer at the University of Canterbury and will be deleted after five years.

The larger research project under which this study is conducted has been revised and approved by the Human Ethics Committee at the University of Canterbury (reference HEC 2013/35).

### **Consent**

- I have been given a full explanation of this project.
- I understand what is required of me if I agree to take part in the research.
- I understand that participation is voluntary and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
- I understand that any information or opinions I provide will be kept confidential to the researcher (Quyen Nguyen) and their supervisor (Dr Joana Kuntz) and that any published or reported results will not identify the participants.
- I understand that a thesis is a public document and will be available through the UC Library.
- I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after five years.
- I understand that I am able to receive a report on the findings of the study by contacting the researcher at the conclusion of the project.
- I understand that I can contact the researcher, Quyen Nguyen ([quyen.nguyen@pg.canterbury.ac.nz](mailto:quyen.nguyen@pg.canterbury.ac.nz)) or their supervisor, Dr Joana Kuntz ([joana.kuntz@canterbury.ac.nz](mailto:joana.kuntz@canterbury.ac.nz)) for further information. If I have any complaints, I can contact the Chair of the University of Canterbury Human

Ethics Committee, Private Bag 4800, Christchurch

([humanethics@canterbury.ac.nz](mailto:humanethics@canterbury.ac.nz))

### **Demographic information**

Gender

- Male
- Female

Age

What is your job title?

What is your employment type?

- Full-time
- Part-time
- Other, please specify:

How long have you worked in your current job? (Years)

How long have you been working with your current immediate supervisor? (Years)

### **Scales**

(scale titles were not included in the actual online questionnaire, but were included here for reference)

### **Employee Resilience**

The following statements describe behaviours in the workplace.

Please provide an honest assessment of the extent to which you enact each of these behaviours.

(1-Never, 2-Rarely, 3-Sometimes, 4-Often, 5-Always)

1. I effectively collaborate with others to handle challenges at work
2. I successfully manage a high workload for long periods of time
3. I resolve crises competently at work
4. I effectively respond to feedback, even criticism
5. I re-evaluate my performance and continually improve the way I do my work
6. I approach managers when I need their support
7. I learn from mistakes at work and improve the way I do my job
8. I use change at work as an opportunity for growth
9. I seek assistance at work when I need specific resources

Please feel free to comment below.

### **Contingent Reward Leader's Behaviours**

The following statements concern your views of your immediate supervisor.

Please indicate the degree to which you agree with these statements.

(1 – Strongly Disagree to 5 – Strongly Agree)

1. My supervisor gives me special recognition when my work performance is especially good.
2. My supervisor commends me when I do a better than average job.
3. My supervisor informs his boss and/or others in the organization when I do outstanding work.

4. If I do well, I know my supervisor will reward me.

Please feel free to comment below.

### **Empowering Leader's Behaviours**

The following statements concern your perception of your immediate supervisor's behaviours.

Please indicate the degree to which you agree with each of these statements.

(1 – Strongly Disagree to 5 – Strongly Agree)

1. My supervisor helps me understand the importance of my work to the overall effectiveness of the company.
2. My supervisor helps me understand how my job fits into “the bigger picture.”
3. My supervisor helps me understand how my objectives and goals relate to that of the Company.
4. My supervisor often consults me on strategic decisions.
5. My supervisor makes many decisions together with me.
6. My supervisor believes that I can handle demanding tasks.
7. My supervisor believes in my ability to improve even when I make mistakes.
8. My supervisor makes it more efficient for me to do my job by keeping the rules and regulations simple.
9. My supervisor allows me to do my job my way.
10. My supervisor allows me to make important decisions quickly to satisfy customer needs.

Please feel free to comment below.

### **Proactive Personality**

The following statements concern your general stance in life.

Please indicate the degree to which you agree with each of the statements.

(1 – Strongly Disagree to 5 – Strongly Agree)

1. I am constant on the lookout for new ways to improve my life.
2. Wherever I have been, I have been a powerful force for constructive change.
3. Nothing is more exciting than seeing my ideas turn into reality.
4. If I see something I don't like, I fix it.
5. No matter what the odds, if I believe in something I will make it happen.
6. I love being a champion for my ideas, even against others' opposition.
7. I excel at identifying opportunities.
8. I am always looking for better ways to do things.
9. If I believe in an idea, no obstacle will prevent me from making it happen.
10. I can spot a good opportunity long before others can.

Please feel free to comment below.

### **Optimistic Personality**

The following statements concern how you typically perceive circumstances.

Please indicate the degree to which you agree with each of the statements.

(1 – Strongly Disagree to 5 – Strongly Agree)

1. In uncertain times, I usually expect the best.

2. I'm always optimistic about my future.
3. I almost always expect things to go my way.
4. Overall, I expect more good things to happen to me than bad.

Please feel free to comment below.

Thank you for your time. Your responses have been recorded.

If you are a participant from New Zealand and would like to enter the prize draw,  
please click on the following link to go into the draw.